

REMARKS

1. Status of the Application

Claims 1–43 were originally pending in the application. Claims 1–24 were previously withdrawn from further consideration in response to a restriction requirement. Thus, claims 25–43 are pending in the application. Claims 27 and 36 were canceled. Therefore, claims 25, 26, 28–35, and 37–43 remain at issue in the current application.

2. Rejection of the Claims under 35 U.S.C. §102

Claims 25, 26, 29 and 30 stand finally rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,513,036 to Thompson et al. Applicant assumes that Claim 25 is rejected, not Claim 22, as indicated in the Office Action. In order for a reference to act as a §102 bar to patentability, the reference must teach each and every element of the claimed invention. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771 (Fed. Cir. 1983). Without the required teaching of “each and every element” as set forth in the claims, it is improper to maintain such rejections under §102(b). Thompson et al. do not teach each and every element of the claimed invention, specifically as amended, and thus fails as an anticipatory reference.

Thompson et al. disclose a laminate of a paperboard substrate, to which is applied a propylene polymer. Overlaying the polypropylene web is a web of heat-sealable olefin polymer (col. 3, lines 24–28 and lines 41–44). To enhance adhesion between the olefin polymer layer and the propylene polymer web, an adhesive layer, such as EMA, can be deposited between the layers (col. 4, lines 3–5). Other means to enhance adhesion include pre-treating the polypropylene coated paperboard by flame treatment, corona discharge, or the like, and subsequently overcoating the propylene polymer barrier web with a web of olefin polymer (col. 4, line 25–29; claim 1).

In contrast, Applicant's invention is directed to a co-extruded polymer coated sheet material. Specifically, Applicant uses a cellulosic substrate upon which polypropylene is co-extruded with at least one additional polymer, such as polyethylene. The polymers can be co-extruded at temperatures greater than 550° F, and even as high as 600° F, which eliminates the need for the pretreatment step typically required for adequate adhesion between polypropylene and a substrate surface (page 3, lines 13–18). The molten polypropylene layer penetrates into at least a portion of the substrate layer. The resulting multi-layer sheet material exhibits good interlaminar bonding such that the adhesive strength between the polypropylene polymer layer and the substrate is greater than the cohesive strength of the cellulosic substrate, avoiding delamination (page 4, lines 10–17 of the specification). The unique laminate of the present invention also permits more economical manufacture by eliminating the need for pretreatment steps.

As acknowledged in the Office Action (page 3, paragraph 7), Thompson et al. does not teach each and every element of the claimed invention. It is also acknowledged in the Office Action that claim 1 of Thompson et al., states that the inner surface of the polypropylene layer is treated to enhance adhesion, and that the present invention does not require such treatment (page 3). Unlike the structure disclosed in Thompson et al., the polypropylene layer of Applicant's invention is not treated in any manner to enhance the adhesion between the layers. This is because due to the high temperatures under which Applicant is able to extruded the polypropylene, the molten polypropylene penetrates into the cellulosic substrate. Thompson et al. specifically teach that (1) pre-treatment of the polymer, and/or addition of an adhesive layer, such as EMA, and (2) subsequent treatment of the laminate with electron beam radiation to cross-link the EMA, is desired to improve adhesion between the layers (col. 4, lines 5–13).

Applicant, however, does not use an additional adhesive layer between the propylene and polyethylene layers. Applicant describes and claims that the molten polypropylene penetrates into the substrate due to its low melt viscosity. The melt viscosity of polypropylene is lower than that of polyethylene. Due to the penetration of the molten polypropylene layer into the substrate, it does not logically follow that an adhesive, or any other layer for that matter, can even be incorporated. There is simply “no room” for another layer of any material, or even a need for an adhesive of any kind. Therefore, Applicant strongly disagrees with the statement made in the Office Action that “the invention as claimed is an open language and inclusive of a layer of EMA” (page 4 of the Office Action). Furthermore, Applicant discusses the disadvantages of pretreatment steps to enhance the bonding of polypropylene to a paper substrate (Specification, p.2, lines 9–16). Thus, any form of pretreatment or use of adhesive is undesirable in Applicant’s invention, and Thompson et al do thus not anticipate Applicant’s invention.

In the Office Action, it is stated that Applicant’s arguments are unpersuasive because the invention as claimed is “an open language and inclusive of a layer of EMA” (page 3). However, as stated above, and acknowledged in the Office Action, “Thompson et al. do not teach each and every element of the claimed invention.” As noted above, Thompson et al. teach that the propylene polymer and olefin polymer webs can be directly co-extruded onto the paperboard substrate. However, Thompson et al. also provide that in order to “facilitate adhesion between the propylene polymer and the olefin polymer, a layer of EMA can be simultaneously coextruded onto the paperboard substrate” (col. 4, lines 18–22). Again, due to the penetration of the molten polypropylene into the substrate there is no place, or need for, the addition of another layer. Structurally, Applicant’s invention is distinct and novel from that of Thompson et al. given the

unique structure of Applicant's invention, the use of EMA or any other layer is not contemplated because it is not feasible.

Therefore, and as acknowledged in the Office Action, Thompson et al. does not teach each and every element of the claims of Applicant's invention, and it fails as an anticipatory reference. Applicant respectfully requests withdrawal of the rejection of claim 25 under §102. As claim 25 is allowable, its dependent claims 26, 29 and 30 are also allowable.

3. Rejection of the Claims under 35 U.S.C. §103

Claims 25, 26, and 28–31 continue to stand rejected under 35 U.S.C. §103(a) as being unpatentable over Re 27,610 to Rausing et al. Applicant respectfully requests reconsideration of this rejection because Applicant's invention is not obvious in view of this reference.

Rausing et al. disclose a packaging material having three lamination layers, with the base material being paper, and the inner layer and intermediate layer being a thermoplastic material (col. 1, lines 24–29). Polypropylene can be used for the intermediate layer. Polyethylene can be used for the inner layer, which is intended for heat sealing (col. 1, lines 53–55). Rausing et al. manufacture the packaging material by extruding the first plastic film onto the base material, and then calendaring the laminate. From a second extrusion nozzle, the second plastic film is extruded, and the three-layer laminate is calendared between a second pair of rolls (col. 2, lines 61–72). The layers are heat sealed together, wherein the inner layer (polyethylene) melts, and the intermediate layer (polypropylene) remains unmelted, thereby preventing the material from one layer from being pressed into the base material layer (col.1, lines 37–46, and col. 3, claim 1).

Again, Rausing et al. do not teach Applicant's invention. Applicant describes and claims a co-extruded polymer layer, but more importantly, that the polypropylene later penetrates into at least a portion of the cellulosic layer. In the Office Action, it is stated that the prior arguments

were unpersuasive because the co-extrusion is a process step. However, structurally, the resulting multi-layer sheet material of Applicant, in which it is specifically claimed that the “polypropylene layer penetrates into at least a portion of the cellulosic substrate layer” results in a structure distinct from that of Rausing et al. Applicant’s co-extruded polymer layer is a product having improved blister resistance, as shown in the Example (page 15) in Applicant’s invention. Rausing et al. describe and claim that the “layers are prevented from being pressed into each other” (col. 3, lines 23–24 of claim 1; and col. 1, lines 37–46). Structurally, the Rausing et al. product is distinct from that taught and claimed by Applicant. Contrary to the statement in the Office Action, there is evidence in the record in both the claims and in the description, showing that the claimed product is different than the prior art product. Thus, Applicant’s invention is not obvious in view of Rausing et al.

Claims 25–43 continue to stand rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 4,859,511 to Patterson et al., in view of Rausing et al., described above, and U.S. Patent No. 4,855,187 to Osgood, Jr. et al., which is continued from the rejection set forth in the Office Action mailed June 9, 2003, Paper 10, and initially in the Office Action mailed November 1, 2002, Paper 5. The rejection was maintained because it was alleged in the June 9 Office Action that Applicant’s arguments were unpersuasive because the coating by co-extrusion process is a process step, and bears no weight as to the patentability of the product. Applicant respectfully submits that its product is distinct from those in the cited references.

The references individually do not teach Applicant’s invention, and there is no motivation to combine these references. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the modification suggested by the Examiner. That knowledge cannot come from the Applicant’s

invention itself. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992). Further, “the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Thus, modification of Patterson et al. in view of Rausing et al. and Osgood et al. in a manner that apparently reconstructs Applicant’s invention is improper and insufficient to present a *prima facie* case of obviousness.

Patterson et al. disclose release sheets that include a support substrate having a release layer formed on at least one side thereof with an undercoating layer interposed between the support substrate and the release layer (col. 2, lines 3–6). As stated in the Office Action mailed November 1, 2002, “Patterson et al. fail to teach structure such as paper/polypropylene/polyethylene or paper/ polypropylene/polyethylene/polypropylene for base for release coat.” Notably, Patterson et al. does not teach the multilayer film where the polypropylene layer penetrates into at least a portion of the cellulosic substrate layer, as in Applicant’s invention.

Osgood et al. disclose polypropylene films essentially of HDPE and polypropylene, not a multi-layer sheet material having a cellulosic substrate and a co-extruded polymer layer. Osgood et al. do not disclose a paper/polypropylene/polyethylene multilayer structure, or the multilayer film where the polypropylene layer penetrates into at least a portion of the cellulosic substrate layer, as in Applicant’s invention.

Rausing et al., as set forth above, discloses a packaging material having three lamination layers, with the base material being paper, polypropylene and polyethylene. However, Rausing et al. do not teach or suggest that the polypropylene layer penetrates into a least a portion of the cellulosic substrate layer.

It is clear that Applicant's product is distinct from that of the above references. Further, there is simply no motivation to combine these references, which individually teach completely different structures from one another, as well as from Applicant's product. It has been acknowledged that Patterson et al. does not teach a paper/polypropylene/polyethylene structure. Therefore, it does not follow that one skilled in the art would combine the teaching of Patterson et al. with Rausing et al. or Osgood et al., except to improperly attempt to arrive at Applicant's invention.

The November 1, 2002 Office Action alleged that it would have been obvious to coat a laminate of Osgood et al. or Rausing et al. with a silicone release coat to use as a release liner. However, as discussed above, these references are distinct and it is simply improper to combine such distinct reference to arrive at Applicant's invention. Rausing et al. fails to teach Applicant's product, wherein the polypropylene layer is molten and penetrates into at least a portion of the substrate layer. Osgood et al. likewise does not disclose the same structure as Applicant's invention. The distinct differences in the references presented above, and the fact each reference discloses a completely different product, not only from each other, but also from that described and claimed by Applicant, negates any motivation to combine the references.

Even if the references were properly combined, Applicant's invention is still not obvious in view of the combination of references. Applicant's invention is a multilayered structure including a cellulosic substrate with a polymeric layer on the surface thereof, wherein the molten polypropylene layer penetrates into at least into a portion of the substrate, resulting in a structure with improved properties, such as exceptional polybond, i.e., good bond to paper, and improved blister resistance, as shown in the Example. None of the references teach or suggest

Applicant's structure. Applicant respectfully requests that the rejection under §103 be withdrawn.

Conclusion

In view of the amendments and arguments presented above, Applicant respectfully submits that Claims 25, 26, 28-35, and 37-43 are now in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service with first class postage prepaid in an envelope addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 6, 2004.

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